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(54) **LOW MOLECULAR WEIGHT
PHOSPHORUS-CONTAINING POLYACRYLIC
ACIDS AND USE THEREOF AS DISPERSANTS**

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C08F 2/10 (2006.01)
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(52) **U.S. Cl.**
USPC **526/81**; 526/233; 526/317.1; 524/556

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See application file for complete search history.

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(57) **ABSTRACT**

Aqueous solutions of acrylic acid polymers are prepared by polymerization of acrylic acid in a feed operation with a free-radical initiator in the presence of hypophosphite in water as solvent, by a process comprising (i) initially charging water and optionally one or more ethylenically unsaturated comonomers, (ii) continuously adding acrylic acid in acidic, unneutralized form, optionally one or more ethylenically unsaturated comonomers, aqueous free-radical initiator solution and aqueous hypophosphite solution, and (iii) adding a base to the aqueous solution on completion of the acrylic acid feed, wherein a comonomer content does not exceed 30% by weight and the aqueous hypophosphite solution is added during a total feed time made up of three consecutive feed time spans Δt_I , Δt_{II} , and Δt_{III} , wherein the average feed rate in the second feed time span Δt_{II} is greater than the average feed rates in the first and third feed time spans Δt_I and Δt_{III} .

7 Claims, No Drawings